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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,211	09/11/2000	Noriyuki Hirayanagi	4641-55447	5080

7590

07/18/2003

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EXAMINER

EVERHART, CARIDAD

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/659,211

Applicant(s)

HIRAYANAGI, NORIYUKI

Examiner

Caridad M. Everhart

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7 and 10 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8, 9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Applicant's arguments with respect to claims 1, 2, 8, 9, 11, and 12 have been considered but are moot in view of the new ground(s) of rejection.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Because of new grounds for allowance, it was respectfully felt that an interview would not be helpful before this rejection, however, applicant's request for an interview after the receipt of this rejection is acknowledged and can be scheduled at applicant's convenience.

Claim Rejections - 35 USC § 103

Claims 1, 2, 8, 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amemiya, et al. (US 2002/0079462A1) ("Amemiya").

Amemiya discloses a specimen with a silicon substrate, which silicon is known in the art to have a crystal orientation (paragraph 0050). The position of an alignment mark is to be detected (same paragraph). A charged particle beam is irradiated onto the silicon portion and onto the alignment mark portion and backscattered signals are obtained from each (paragraph 0051 and Fig. 5). The difference between the two is used to determine the position of the alignment mark with greater resolution and with greater detection of accuracy of the position than the prior art (paragraph 005). Although Amemiya is silent with respect to subtracting, it is implied that a subtracting is involved, because Amemiya discloses that the difference in the signal between the portion of the substrate where the alignment mark is not present on the silicon substrate and portion where the alignment mark is present is used to determine a ratio of the intensity of the

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signal with and without alignment mark. One of ordinary skill in the art would know that this ratio could involve a subtraction of values, as a ratio is defined as a value compared to a standard, which would include a subtracting to compare the value to the standard. One of ordinary skill in the art would also be motivated by Fig. 5 to subtract the two values disclosed by Amemiya. As seen in Fig.2, the scanning of the silicon portion is on a smooth planar region. With respect to claim 8, Amemiya discloses patterning using photoresist and photolithography using the apparatus and method taught by Amemiya(paragraphs 0004 and 0039). With respect to claims 9 and 10, Amemiya discloses assembling on a wafer(paragraph 0067) in addition to the photoresist and photolithography step. With respect to claims 11 and 12, although the apparatus claims upon which claims 11 and 12 depend, that is claim 7 is allowed, the device claims are product by process claims and are rejected based upon the device limitations. These are taught by Amemiya as pointed out herein, such as the wafer substrate processed by applying resist and microlithographically processing, etc.

Allowable Subject Matter

Claims 6, 7, and 10 are allowed.

Claims 3-5, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 703-

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308-3455. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 703-308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

C. J. Smith
C. J. SMITH
PRIMARY EXAMINER

****CME*
July 14, 2003